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INFORMATION DISCLOSURE TRANSMITTAL	Docket No. P8228-US-NP

Applicant:	Alexander T. Garthwaite
Serial No:	10/644,344
Filed:	August 20, 2003
For:	HANDLING FUTILE COLLECTIONS IN THE TRAIN ALGORITHM THROUGH SELECTIVE EXTENSION OF THE COLLECTION SET
Examiner:	Safet Metjahic
Art Unit:	2171

CERTIFICATE OF MAILING UNDER 37 C.F.R. §1.8(a)

The undersigned hereby certifies that this document is being placed in the United States mail with first-class postage attached, addressed to Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on December 16, 2005.
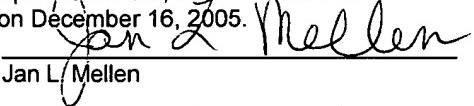
Jan L. Mellen

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

     In keeping with the duty of candor and good faith owed to the Patent and Trademark Office, Applicant wishes to bring information to the attention of the Examiner. The filing of this statement shall not be construed as a representation that a search has been made or as an admission that this information is, or is considered to be, material to patentability as defined in 37 C.F.R. §1.56(b).

Enclosures

☒   A form PTO-1449 listing this information is attached

☒   Copies of documents cited, other than U.S. patents and published U.S. patent applications, are enclosed.

☐   Copies of the cited documents are not enclosed because   .

Fees

☒   This statement is filed before the later of: (1) three months of (i) the filing of a national application or (ii) the entry date for the national stage of an international application; (2) the mailing date of a first office action on the merits; or (3) the mailing date of a first office action on the merits following the filing of a Request for Continued Examination. No fee is due.

☐   This statement is filed before the mailing date of a final office action, a notice of allowance or an action that otherwise closes prosecution, *and*

    ☐   The submission fee of $180.00 under 37 CFR §1.17(p) is enclosed, *or*

    ☐   The following certification is made:

        ☐   each item of information contained in this statement was cited in a communication from a foreign patent office in a counterpart foreign

application not more than three months prior to the filing of this statement, or

☐ no item of information contained in this statement was cited in a communication from a foreign patent office in a counterpart foreign application and, to the knowledge of the person signing the statement after making reasonable inquiry, no item of information contained in this statement was known to any individual designated in 37 CFR §1.56(c) more than three months prior to the filing of this statement.

☐ This statement is filed on or before payment of the issue fee, the submission fee of $180.00 under 37 CFR §1.17(p) is enclosed, *and*

☐ each item of information contained in this statement was cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this statement, or

☐ no item of information contained in this statement was cited in a communication from a foreign patent office in a counterpart foreign application and, to the knowledge of the person signing the statement after making reasonable inquiry, no item of information contained in this statement was known to any individual designated in 37 CFR §1.56(c) more than three months prior to the filing of this statement.

Payment

☐ A check in the amount of the submission fee is enclosed.

☐ Charge Account No. 02-3038 in the amount of the submission fee. A duplicate of this transmittal sheet is attached.

Authorization to Charge Additional Fees

☒ The Commissioner is hereby authorized to charge any additional fees under 37 C.F.R. §1.16 and §1.17 required by the attached paper and during the entire pendency of this application to Account No. 02-3038.

Respectfully submitted,
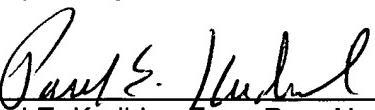
Date: 12/16/05

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT   Sheet 1 of 10

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Examiner: Safet Metjahic
Art Unit: 2171

U.S. PATENT DOCUMENTS

Exam Inits	Cite No.	Patent Number	Kind Code	Patentee or Applicant Name	Issue Date
		10/287,851		GARTHWAITE, ET AL.	11/5/02
		20020032719	A1	THOMAS, ET AL.	03/02
		20020095453	A1	STEENSGAARD	07/18/02
		20020133533	A1	CZAJKOWSKI, ET AL.	09/19/02
		20040039759	A1	DETLEFS, ET AL	2/2004
		4,724,521	B1	CARRON, ET AL.	2/1988
		4,797,810	B1	MCENTEE, ET AL.	01/10/89
		4,912,629	B1	SHULER, JR.	05/27/90
		4,989,134	B1	SHAW	01/29/91
		5,088,036	B1	ELLIS, ET AL.	02/11/92
		5,333,318	B1	WOLF	07/26/94
		5,392,432	B1	ENGELSTAD, ET AL.	02/21/95
		5,485,613	B1	ENGELSTAD, ET AL.	01/16/96
		5,560,003	B1	NILSON, ET AL.	09/24/96
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		5,845,298	B1	O'CONNOR, ET AL.	12/01/98
		5,857,210	B1	TREMBLAY, ET AL.	01/01/99
		5,873,105	B1	TREMBLAY, ET AL.	02/16/99

FOREIGN PATENT DOCUMENTS

Exam Inits	Cite No.	Cy	Number	Kind Code	Patentee or Applicant Name	Publication Date	T
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Information Disclosure Statement

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		5,900,001	B1	WOLCZKO, ET AL.	05/04/99
		5,903,900	B1	KNIPPEL, ET AL	05/11/99
		5,930,807	B1	EBRAHIM, ET AL.	07/27/99
		5,953,736	B1	O'CONNOR, ET AL.	09/14/99
		6,021,415	B1	CANNON, ET AL.	02/01/00
		6,047,125	B1	AGESEN, ET AL.	04/04/00
		6,065,020	B1	DUSSUD	05/16/00
		6,098,089	B1	O'CONNOR, ET AL.	08/01/00
		6,148,310	B1	AZAGURY, ET AL.	11/14/00
		6,173,294	B1	AZAGURY, ET AL.	01/09/01
		6,185,581	B1	GARTHWAITE	02/06/01
		6,226,653	B1	ALPERN, ET AL.	05/01/01
		6,243,720	B1	MUNTER, ET AL	06/05/01
		6,289,358	B1	MATTIS, ET AL.	09/11/01
		6,308,185	B1	GRARUP, ET AL.	10/23/01
		6,314,436	B1	HOULDSWORTH	11/06/01
		6,321,240	B1	CHILIMBI, ET AL.	11/27/01
		6,353,838	B1	SAUNTRY, ET AL.	03/05/02
		6,381,738	B1	CHOI, ET AL.	04/30/02
		6,393,439	B1	HOULDSWORTH, ET AL.	05/21/02

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		6,415,302	B1	GARTHWAITE, ET AL.	07/02/02
		6,424,977	B1	GARTHWAITE	07/23/02
		6,434,576	B1	GARTHWAITE	08/13/02
		6,434,577	B1	GARTHWAITE	08/13/02
		6,442,661	B1	DRESZER	08/27/02
		6,449,626	B1	GARTHWAITE, ET AL.	09/10/02
		6,496,871	B1	JAGANNATHAN, ET AL.	12/17/02
		6,529,919	B1	AGESEN, ET AL.	03/04/03
		6,567,905	B2	OTIS	05/20/03
		6,757,890	B1	WALLMAN	06/29/04
		6,769,004	B1	BARRETT	07/27/04
		6,820,101	B1	WALLMAN	11/16/04
		6,826,583	B1	FLOOD, ET AL.	11/30/04
		6,868,488	B1	GARTHWAITE	03/15/05
		6,892,212	B2	SHUF, ET AL.	5/2005

FOREIGN PATENT DOCUMENTS

Exam Inits	Cite No.	Cy	Number	Kind Code	Patentee or Applicant Name	Publication Date	T
		WO	WO0188713	A2	SUN MICROSYSTEMS, INC.	11/22/2001	☐
		EP	EP 0 904 055	A1	SUN MICROSYSTEMS, INC.	9/8/1999	☐
		EP	EP 0 969 377	A1	INT'L BUSINESS MACHINES CORP.	1/5/2000	☐
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OTHER PRIOR ART – NON PATENT LITERATURE AND DOCUMENTS

Exam Inits	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the articles (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T
		APPEL, "Simple Generational Garbage Collection and Fast Allocation", Software Practice and Experience, 19(2), 1989, 171-183	☐
		APPEL, ET AL., "Real-Time Concurrent Collection on Stock Multiprocessors", ACM SIGPLAN Notices, 1988	☐
		APPLEBY, KAREN, "Garbage Collection for Prolog Based on WAM, Vol. 31, Issue 6", Communication of the ACM, June 1, 1998, 719-741	☐
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		BACON, ET AL., "Java without the Coffee Breaks: A nonintrusive Multiprocessor Garbage Collector", SIGPLAN Conference on Programming Language Design and Implementation, June 2001, Snowbird, UT	☐
		BAKER, "List Processing in Real Time on a Serial Computer", Communications of the ACM 21, April 1978, 280-294	☐
		BARRETT, ET AL., "Using Lifetime Predictors to Improve Memory Allocation Performance", SIGPLAN'93 Conference on Programming Languages Design and Implementation Vol. 28(6) of Notices, June 1993, 187-196, ACM Press, Albuquerque, NM	☐
		BLACKBURN & MCKINLEY, "In or Out? Putting Write Barriers in Their Place", June 20, 2002, Berlin	☐
		BROOKS, "Trading Data Space for Reduced Time and Code Space in Real-Time Garbage Collection on Stock Hardware", Proceedings of the 1984 Acm Symposium on Lisp and Funcional Programming, August 1984, 108-113, Austin, TX	☐

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		CHILIMBI, ET AL., "Using Generational Garbage Collection to Implement Cache-Conscious Data Placement", International Symposium on Memory Management, October 1998	☐
		CLARK, "An Efficient List-Moving Algorithm Using Constant Workspace, Vol. 19 No. 6", Communications of the ACM, June 1976, 352-354	☐
		CLARK, ET AL., "Compacting Garbage Collection can be Fast and Simple", Software-Practice and Experience, Vol. 26, No. 2, February 1996, 177-194	☐
		COURTS, "Improving Locality of Reference in a Garbage-Collecting Memory Management System", Communications of the ACM, Vol. 31, No. 9, September 1988, 1128-1138	☐
		FLOOD, ET AL., "Parallel Garbage Collection for Shared Memory Multiprocessors", USENIX JVM Conference, April 2001	☐
		GOLDSTEIN, ET AL., "Lazy Threads: Implementing a Fast Parallel Call, Vol. 37, No. 1", Journal of Parallel and Distributed Computing, August 1996, 5-20	☐
		GRARUP, ET AL., "Incremental Mature Garbage Collection", M.Sc.Thesis @ http://www.daimi.aau.dk/jacobse/Papers, August 1993	☐
		HANSON, "Fast Allocation and Deallocation of Memory Based on Object Lifetimes", Software Practice and Experience, January 1990, 20(1):5-12	☐
		HARRIS, "Dynamic Adaptive Pre-Tenuring", In Proceedings of the Int'l Symposium on Memory Management, October 2000, 127-136	☐

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		HERLIHY, ET AL., "Lock-Free Garbage Collection for Multiprocessors", ACM SPAA, 1991, 229-236	☐
		HOLZLE, URS, "A Fast Write Barrier for Generational Garbage Collectors", Workshop on Garbage Collection in Object Oriented Systems, October 1993	☐
		HOSKING, ET AL., "Remembered Sets Can Also Play Cards", OOPSLA/ECOOP Workshop on Garbage Collection in Object-Oriented Systems, October 1993	☐
		HOSKING, ET AL., "Protection Traps and Alternatives for Memory Management of an Object-Oriented Language", Object Systems Laboratory, December 1993, 1-14, Dept. of Comp. Sci., Amherst, MA	☐
		HUDSON, ET AL., "Adaptive Garbage Collection for Modula-3 and Small Talk", OOPSLA.ECOOP '90 Workshop on Garbage Collection in Object-Oriented Systems, October 27, 1990	☐
		HUDSON, ET AL., "A Language - Independent Garbage Collector Toolkit", Coins Techincal Report, September 1991	☐
		HUDSON, ET AL., "Incremental Collection of Mature Objects", Proceedings of the Int'l Workshop on Memory Managment, 1992, Pgs. 1-16, Springer-Verlag	☐
		HUDSON, ET AL., "Training Distributed Garbage: The DMOS Collector", University of St. Andrews Tech Report, 1997, 1-26	☐
		HUDSON, ET AL., "Garbage Collecting the World: One Car at a Time", ACM SIGPLAN Notices 32, 1997, 162-175	☐

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		HUDSON, ET AL., "Sapphire: Copying GC Without Stopping the World", Practice and Experience Special Issue, Date Unknown, JAVA/Grande/Iscope	☐
		JONES AND LINS, "Garbage Collection: Algorithms for Automatic Dynamic Memory Management", 1996, 165-179, John Wiley and Sons, NY	☐
		LIEBERMAN, ET AL., "A Real-Time Garbage Collector Based on the Lifetimes of Objects", Communications of the ACM, 1983, 26(6)	☐
		LISKOV, ET AL., "Partitioned Garbage Collection of a Large Stable Heap", Proceedings of IWOOOS, 1996, 117-121	☐
		MOON, "Garbage Collection in a Large Lisp System", Conference Record of the 1984 ACM Symposium on LISP and Functional Programming, August 1984, 235-246, Austin, TX	☐
		MOSS, ET AL., "A Complete and Coarse-Grained Incremental Garbage Collection for Persisten Object Strores", Proceedings 7th Int'l Workshop on Persisten Object System, 1996, 1-13, Cape May, NJ	☐
		MUNRO, ET AL., "Incremental Garbage Collection of a Persistent Object Store using PMOS", 3rd Int'l Workshop on Persistence and Java, 1998, 78-91, Tiburon, California	☐
		NETTLES, SCOTT, "Real-Time Replication Garbage Collection", Avionics Lab, Wright Research and Development Center, 1993, PDDI	☐
		PADOPOULOS, "Hood: A User-Level Thread Library for Multiprogramming Multiprocessors, Thesis: The Uni. of TX", University of Texas, August 1998, 1-71, Austin	☐

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		ROY, ET AL., "Garbage Collection in Object-Oriented Databases Using Transactional Cyclic Reference Counting", VLDB Journal - The International Journal on Very Large Da Bases, Vol. 7, Issue 3, 1998, 179-193	☐
		SELIGMANN, ET AL., "Incremental Mature Garbage Collection, In the European Conference on Object-Oriented Programming", M.Sc.Thesis @ http://www.daimi.aau.dk/jacobse/Papers/, 1995	☐
		SHUF, ET AL., "Exploiting Profilic Types for Memory Management and Optimizations. ACM ISBN 9/2/01", POPL, January 2002, Portland	☐
		SOBALVARRO, "A Lifetime-based Garbage Collector for LISP Systems on General-Purpose Computers", Department of Electrical Engineering and Computer Science at MIT, September 1988, AITR-1417	☐
		STAMOS, "Static Grouping of Small Objects to Enhance Performance of a Paged Virtual Memory", ACM Transactions on Computer Systems, Vol. 2, No. 2, May 1984, 155-180	☐
		UNGAR, "Generation Scavenging: A Non-Disruptive High Performance Storage Reclaration Algorithm", ACM SIGPLAN Notices, April 1984, 19(5)	☐
		UNGAR, ET AL., "Tenuring Policies for Generation-Based Storage Reclamation", ACM SIGPLAN Notices, 1988, 23(11)1-17	☐
		VENNERS, "Garbage Collection, Inside the Java 2 Virtual Machine; Chapter 9", www.artima.com, Date Unknown, parts 1-18	☐
		WILSON, "Uniprocessor Garbage Collection Techniques", Proceedings of Int'l Workshop on Memory Management, 1992, V. 637	☐

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		WILSON, "Uniprocessor Garbage Collection Techniques", Technical Report, University of Texas, 1994	☐
		WITHINGTON, P.T., "How Real is "Real-Time" GC?", Symbolics, Inc., October 6, 1991, Burlington, MA	☐
		ZEE, ET AL., "Write Barrier Removal by Static Analysis", OOPSLA '02, November 2002	☐
		ZORN, "Segregating Heap Objects by Reference Behavior and Lifetime", In 8th Int'l Conferenceon Architectural Support for Programming Languages and Operating Systems, October 1998, 12-32, San Jose, CA	☐
		ZORN, BENJAMIN, "Barrier Methods for Garbage Collection", Dept. of Computer Science, Uni. of Colorado, November 1990, 1-37, Boulder	☐
		AZAGURY, ET AL., "Combining Card Marking With Remembered Sets: How to Save Scanning Time", ACM SIGPLAN Notices, October 1998, V. 34(3), ACM Press, Vancouver, Canada	☐
		CHENEY, "A Nonrecursive List Compacting Algorithm, Volume 13, Number 11", Communications of the ACM, November 1970, 677-678, Uni. Math. Lab., Cambridge, European Patent Office	☐
		CHENG, ET AL., "Generational Stack Collection and Profile-Driven Pretenuring", SIGPLAN'98 Conference on Programming Languages Design and Implementation, June 1998, 162-173, ACM PRESS, Montreal, Canada	☐
		HOSKING, ET AL., "A Comparative Performance Evaluation of Write Barrier Implementations", OOPSLA; ACM Conference on Object-Oriented Systems, Languages and Applications, October 1992, V. 27(10), ACM Press, Vancouver, Canada	☐

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		LAM, ET AL., "Object Type Directed Garbage Collection to Improve Locality", Proceedings of the International Workshop on Memory Management, September 1992, 404-425, St. Malo, France	☐
		LAM, ET AL., "Effective Static-Graph Reorganization to Improve Locality in Garbage Collected Systems", Proceedings of ACM SIGPLAN Conference on Programming Language Design and Implementation, June 1991, Toronto, Canada	☐
		PIRINEN, PEKKA, "Barrier Techniques for Incremental Tracing", Harlequin Limited, Date Unknown, 20-25, Cambridge, Great Britain	☐
		WILSON, ET AL., "Effective Static-Graph Reorganization to Improve Locality in Garbage Collected Systems", Proceedings of ACM SIGPLAN Conference on Programming Language Design and Implementation, June 1991, Canada	☐
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